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Introduction

Thank you, Madam Chairwoman and Members of the Subcommittee for the opportunity to discuss the Great Lakes and the progress that has been made as well as challenges that remain in protecting and restoring this vast but fragile natural resource. Accompanying me is Mary Gade, the Great Lakes National Program Manager. Since the beginning of settlement and industrialization, the Great Lakes have been a center of industry, development, and population, holding about one-fifth of the world's fresh surface water. The Great Lakes Region is an economic powerhouse producing one-third of our gross national product and would comprise the world's third largest economy if it were a separate country.

While significant and emerging challenges remain, the Great Lakes have made a dramatic comeback from severely polluted conditions - 30 to 40 years ago when the Lakes were seemingly on the verge of collapse. The Lakes, and especially the Lower Lakes, were beset by fish kills, offensive algae blooms, oil slicks, and oxygen depletion. Many beaches were permanently closed, and fishing for some species was banned. The Cuyahoga River in Cleveland caught fire, and Lake Erie was declared "dead" by the media.

Background

One of the first steps towards a binational approach to the management of the Great Lakes was the signing in 1909 of the Boundary Waters Treaty between the United States and Canada. Among other things, the Boundary Waters Treaty established the International Joint Commission (IJC) and gave it authority to help resolve "questions or matters of difference" between the U.S. and Canada involving boundary waters.

Growing public awareness and concern for the environment in the late 1960s and early 1970s led to a series of landmark events:

- The U.S. Environmental Protection Agency and Environment Canada were formally established in 1970.
- The Clean Air Act of 1970 was enacted,
- The Federal Water Pollution Control Act Amendments of 1972, the predecessor to the Clean Water Act of 1977, were enacted, and
- The United States and Canada signed the Great Lakes Water Quality Agreement in 1972 setting out broad binational goals for cleaning up the lakes and launching an important era of binational stewardship of the lakes.

To achieve the goals of the Great Lakes Water Quality Agreement, and recognizing the multi-jurisdictional and multi-media nature of this effort, EPA established the Great Lakes National Program Office, or "GLNPO" [Clean Water Act Section 118(b)]. GLNPO has responsibilities for coordinating actions within EPA and with other federal and state agencies to restore and protect the Great Lakes and to implement the Great Lakes Water Quality Agreement. The Great Lakes Program has been instrumental in coordinating and streamlining efforts among U.S. and Canadian Federal, State, and Tribal governmental partners.

In l987, the Agreement was revised and strengthened, adding a new focus on toxic substances as well as providing for the development of Remedial Action Plans for Areas of Concern, and Lakewide Management Plans. Congress responded by amending the Clean Water Act to include specific elements to protect and restore the Great Lakes. The Great Lakes Critical Programs Act of 1990 made further revisions and also required the development of water quality guidance for the Great Lakes System consistent with the objectives and provisions of the Great Lakes Water Quality Agreement and to be no less restrictive than the provisions of the Clean Water Act and national water quality criteria and guidance. The Guidance specifies numerical limits on pollutants in ambient Great Lakes waters to protect human health, aquatic life, and wildlife. EPA's Guidance to the Great Lakes States sets forth minimum water quality standards, antidegradation policies, and implementation procedures for the Great Lakes System. The Guidance takes into account the particular characteristics of the Great Lakes and its inhabitants.

More recently, with the passage and funding of the Great Lakes Legacy Act of 2002, EPA has been given a powerful new tool to accelerate the pace of sediment cleanups in the Great Lakes. The Great Lakes Legacy Act (GLLA) calls for partnerships between the EPA and other governmental or non-governmental parties to clean up sediments, emphasizing cleanup rather than studies.

Executive Order 13340, signed by President Bush on May 18, 2004, further reinforced the central coordinating role of EPA and GLNPO. This Order established a Great Lakes Interagency Task Force and called for a "regional collaboration of national significance" for the Great Lakes, involving the Federal Agencies at the highest level.

It is important to note that governance in the Great Lakes basin is complex.
There are two countries involved, each of which has several federal agencies with jurisdiction over some aspect of the Lakes. In the U.S. the agencies include the Environmental Protection Agency, the Fish and Wildlife Service, U.S. Department of Agriculture, U.S. Geological Survey, the National Oceanic and Atmospheric Administration, the National Park Service, the Corps of Engineers, and the Coast Guard, among others. In Canada, the relevant agencies include Environment Canada, Health Canada, Agriculture Canada, Fisheries and Oceans Canada, Natural Resource Canada, Transportation Canada, and others.

There are also 8 U.S. States with part of the Great Lakes in their jurisdiction, and there are two Canadian Provinces. Each of the States and Provinces also has multiple agencies, including the State or Provincial equivalent of an environmental quality agency and a natural resource management agency.

There are 83 U.S. counties bordering the Great Lakes, whose county health departments, for example, monitor the swimming beaches. In Ontario, 41 Public Health Units monitor swimming beaches and drinking water quality, among other things.

In the U.S., 33 tribal governments have independent governance in the Great Lakes basin. In Canada, the relationship between the federal government and First Nations is more complex, but there are over 50 recognized First Nations in the basin.

The U.S. and Canada have established special binational commissions, such as the aforementioned IJC, to assist in the implementation of the Great Lakes Water Quality Agreement, as well as the Great Lakes Fishery Commission to control infestation of the sea lamprey and to promote a multi-use fishery.

Clearly, we have come a long way with our many partners, some of whom are here today. The aesthetics of our beaches and waterfronts have improved immensely leading to revitalizing development in many of the older cities on the shores of the Lakes, including Cleveland, Toledo, Milwaukee, and Chicago to name just a few. Our cleanup efforts have turned what had been eyesores into valuable assets, aesthetic amenities, and magnets for economic investment.

There is much more to be done, however, and we can't accomplish the task of restoring the Great Lakes alone. I would like to take a few minutes to highlight some accomplishments, and to also talk about some challenges we have in our work to restore the Great Lakes.

Working Together

We are working together with other Federal Agencies through the Great Lakes Interagency Task Force (IATF) established under Executive Order 13340 to resolve a variety of problems on the Great Lakes. Formation of the IATF and its Regional Working Group has changed the way the federal agencies interact on Great Lakes issues by providing a forum for information exchange, leveraging of resources, and further program coordination. It has strengthened interagency coordination on a wide variety of issues and provides a forum for Agencies working together to investigate issues, share information, and develop solutions to difficult problems. The IATF's Regional Working Group meets on a weekly conference call and has developed a workplan highlighting key actions needed to protect and restore the Great Lakes. The IATF also partners with the Great Lakes Regional Collaboration to further support Great Lakes restoration activities.

The Executive Order directed EPA to partner with the Great Lakes States, tribal and local governments, communities, and other interests to establish a regional collaboration to address nationally significant environmental and natural resource issues involving the Great Lakes. The Great Lakes Regional Collaboration (GLRC) was subsequently established in 2004, which includes government and

nongovernmental partners. The Collaboration had its annual meeting on October 2, 2007 at which over one hundred collaboration participants gathered in Chicago. The GLRC is currently implementing six joint initiatives related to wetlands, rapid response to aquatic invasive species, toxic pollutants, and beaches. I will keep you apprised of progress on these initiatives as they are planned and implemented in more detail.

Accomplishments to Date

I now want to specifically highlight recent accomplishments.

- An example of success is the Great Lakes Watershed Restoration Grants Program. Now entering its third funding cycle, the program has provided almost $2 million in federal funding, and leveraged even more in non-federal funds, to support 36 projects since its inception. By bringing together the resources of NOAA, the U.S. Fish & Wildlife Service, the Forest Service, NRCS, and EPA, and using the GLRC Strategy as a guide, the program has been able to make real, on-the-ground gains in protecting and restoring watersheds in the Great Lakes.

- We have seen noteworthy success in the timely removal of contaminants from Great Lakes Areas of Concern since EPA received its first appropriation under the GLLA in 2004, paving the way for these sites to finally be delisted. Since that time, we have remediated over 800,000 cubic yards of contaminated sediment at six sites, at a cost of almost $97 million. We have been able to effectively leverage funds under the Act, utilizing federal, state, and private dollars to remove 1.5 million pounds of contaminated sediments from the environment, thereby reducing risk to aquatic life and human health. For example over 25,000 pounds of PCBs has been remediated from Legacy Act sites, over one million pounds of chromium, about 400 pounds of mercury, and 171 pounds of lead. We continue to move forward in cleaning up more sites under the Legacy Act.

- The Oswego River, New York Area of Concern has been delisted.

- The Habitat/Wetlands Initiative, which the Task Force initiated to meet its joint commitment with the States of 200,000 acres of wetlands habitat restored or protected, and has now grown to become a joint GLRC project, is another example of effective interagency coordination and

resource leveraging. By bringing the relevant agencies to the table to coordinate and plan, and by merging with the Corps of Engineers' $1 million Great Lakes Habitat Initiative, the Interagency Task Force has already restored, protected or improved approximately 65,000 acres of wetlands towards its 100,000 acre near-term goal.

- Over 180 aquatic invasive species have now entered the Great Lakes and are a continuing threat to the ecosystem's integrity. The primary vectors for Great Lakes aquatic invasive species include maritime commerce, canals and waterways, aquaculture, organisms in trade, and recreational activities The IATF has established the Federal Aquatic Invasive Species Rapid Response Subcommittee to coordinate Federal efforts to respond to these invaders. The Subcommittee has been working with partners to develop a Communication Protocol that will assist in coordinating efforts and communication to stem new invaders to the Lakes and to ensure resources and expertise can be brought to bear to the problems of new invaders.

More broadly, the Task Force has completed 13 of the 48 near term actions it committed to after the GLRC Strategy was released, and the majority of the rest are on track toward completion. These actions, contained in the Task Force's Near Term Action Plan, engage all eight of the priority issue areas in the Strategy. The Strategy is also consistent with the President's Ocean Action Plan and the Administration's support of regional collaborations on oceans, coasts, and Great Lakes policy in partnership with States, localities, and tribes. Completed projects include a standardized sanitary survey tool for beach managers to identify pollution sources at beaches. Nine grants were issued providing $525,000 for state and local governments to pilot the use of the tool to assess 60 beaches in the Great Lakes, which will pave the way to implementing measures to reduce beach water contamination. In addition, Asian Silver Carp, Largescale Silver Carp, and Black Carp were listed as injurious under the Lacey Act; and the operation of the electric carp barrier in Illinois was continued, to prevent the spread of these species into the Great Lakes.

In addition to these multiagency actions, EPA has an important role in the Great Lakes in implementing environmental laws. For example, under the Clean Water Act, we have an important tool in the Great Lakes Water Quality Guidance (the Guidance). The Guidance consists of Federal regulations at 40 CFR 132 that establish consistent water quality standards and implementation requirements applicable

to all Great Lakes States and Tribes. It includes a significant number of new water quality criteria for specific pollutants to protect aquatic life, human health and wildlife within the Great Lakes basin. The Guidance also includes methods to derive additional water quality criteria for other pollutants for which EPA has not published criteria.

The Guidance also references how the water quality standards are to be implemented in the context of National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act. There is an emphasis on bioaccumulative chemicals of concern (BCCs), for which the Guidance establishes more restrictions, including a general ban on the use of mixing zones, and more restrictive antidegradation procedures for new or increased discharges of BCCs.

EPA published the final Guidance on March 23, 1995. Since that time, EPA has been working with the Great Lakes States that developed rules to implement the Guidance. The last State submitted its rules to EPA for review in February, 1998. EPA completed final action on all the State submittals by October, 2000. As part of its final action, EPA promulgated some provisions of the Guidance for those States where the State rules were inconsistent with the Guidance. The most notable of these was promulgation of whole effluent toxicity procedures applicable to Indiana, Michigan, Ohio and Wisconsin. EPA also signed addenda to the NPDES Memoranda of Agreement with each State that clarified how important elements of the States' implementation rules would be interpreted.

We have also made significant progress in incorporating revised permit limits into NPDES permits that reflect the Guidance. The percentage of NPDES permitted discharges to the Lakes or major tributaries that had permit limits reflecting the Guidance's water quality standards has increased from 62% in 2002 to 95% in 2007.

Status of the Great Lakes and Future Challenges

Several months ago, EPA and its partners published The State of the Great Lakes 2007 report, which presents information about the Great Lakes basin ecosystem. It represents the combined efforts of

many scientists and managers in the Great Lakes community representing federal, Tribal/First Nations, State, provincial and municipal governments, non-government organizations, industry, academia and private citizens.

The 2007 report indicates good news stories that are hallmarks of progress:

- Levels of most contaminants in herring gull eggs and predator fish continue to decrease.
- Phosphorus targets have been met in Lake Ontario, Lake Huron, Lake Michigan and Lake Superior.
- The Great Lakes are a good source for municipally-treated drinking water.
- Sustainable forestry programs throughout the Great Lakes basin are employing environmentally-friendly management practices.
- Lake trout stocks in Lake Superior have remained self-sustaining, and some natural reproduction of lake trout is occurring in Lake Ontario and in Lake Huron, after many years when this did not occur due to the presence of contaminants, among other factors.
- Lake sturgeon are naturally reproducing in Lake Ontario and in the St. Lawrence River. Spawning and reproduction has been documented in the Niagara River.
- Mayfly (*Hexagenia*) populations have partially recovered in western Lake Erie.
- In 2006, the percentage of beach days available for swimming increased above 85% for the first time since tracking of this indicator began in l997.

The 2007 report also identifies areas that are cause for concern:

- Extensive nuisance growth of the green alga *Cladophora* has reappeared along the shoreline in many places in four of the five Great Lakes.
- Type E botulism outbreaks have lead to fish and bird kills.
- Phosphorus levels are still above guidelines in Lake Erie.
- Non-native species (aquatic and terrestrial) are pervasive throughout the Great Lakes basin, and they continue to exert ecological impacts on native species and communities, as well as having economic impacts.

- Populations of *Diporeia*, the dominant, native, bottom-dwelling invertebrate, which used to represent up to 30% of the food resources for fisheries, continue to decline in Lake Michigan, Lake Huron, and Lake Ontario, and they may be extinct in Lake Erie.
- The lower food web in Lake Huron has diminished with the resultant collapse of many forage fish and predator fish populations, having extensive economic impacts.
- Groundwater withdrawals for municipal water supplies and irrigation, and the increased proportion of impervious surfaces in urban areas, have negatively impacted groundwater levels.
- Long range atmospheric transport is a continuing source of PCBs, mercury, and other contaminants to the Great Lakes basin, and can be expected to be significant for decades.
- Land use changes along the shoreline continue to threaten natural habitats in the Great Lakes and St. Lawrence River ecosystems.
- Some species of amphibians and wetland-dependent birds are showing declines in population numbers, in part due to wetland habitat conditions.
- The Great Lakes climate is changing: winters are getting shorter; annual average temperatures are growing warmer; extreme heat events are occurring more frequently; duration of lake ice cover is decreasing as air and water temperatures are increasing; and heavy precipitation events, both rain and snow, are becoming more common. These effects have the potential to profoundly impact the ecosystem of the Great Lakes.

As you can see, there is much more to be done and many management challenges remain. We will continue to work toward solving these problems in collaboration with other Federal Agencies under the IATF, as well as other partners at the international, State and local levels.

Conclusion

In closing, Madam Chair, the Administration looks forward to working with you and all of our partners to continue making important progress in the Great Lakes. A cleaner, healthier, and more sustainable future for the Great lakes depends on continued innovation and collaboration among all levels of government and the private sector. Mary and I would be happy to answer any questions that you may have.